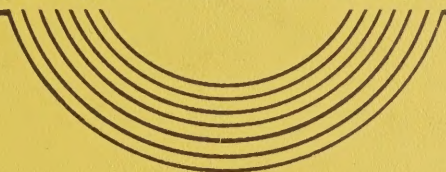
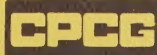




**1975 National Workshops on  
Non-vocal Communication Techniques and Aids**



**PARTICIPANT  
RESOURCEBOOK**



Cerebral Palsy Communication Group  
University of Wisconsin-Madison

SYMBOL COMMUNICATION FOR THE  
MENTALLY HANDICAPPED

An Application of Bliss Symbols as an Alternate  
Communication Mode for Non-Vocal  
Mentally Retarded Children with Motoric Impairment

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## Introduction

The Ontario Crippled Children's Centre in Toronto, Ontario, has designed, developed and implemented a unique communication system for non-vocal persons. This communication system, based upon idio and pictographic symbols developed by Charles Bliss has proved to be an effective alternate communication mode for non-vocal, motorically impaired children of near normal or above intelligence. [O.C.C.C. 1972, (McNaughton Paper AAMD) 1974.]

Results of O.C.C.C. programs have generated an interest in the application of the Bliss Symbols as an alternate communication mode for non-vocal mentally handicapped persons. One such application was carried out at an institution for the retarded in Wisconsin. A five-member team consisting of graduate students from the University of Wisconsin designed and implemented a program to teach symbol communication to 5 mentally retarded youngsters.

Before initiating the project, the team realized that when selecting an alternate mode of communication for non-vocal children, a number of methods and techniques should be considered. Idiosyncratic systems comprised of sounds and gestures particular to a child may be developed; manual signing may be implemented and developed as a native or second language system; picture boards, word boards and letterboards may be selected; typing and handwriting skills may be utilized; or fingerspelling may be incorporated with manual signing (Vicker, 1973).<sup>1</sup> The success of any of these systems depends primarily upon the child's cognitive and physical abilities, as well as environmental applicability, effective language programming and amenity to generalization.

Bliss Symbols were viewed as the best approach for the children in our study for the following reasons:

1) The children were non-verbal and in need of an effective mode of communication. Previous attempts at developing language skills through word recognition and spelling had not been successful with some of the children and others had not been enrolled in language programs.

2) It was felt that utilization of Bliss Symbols (rather than pictures) would increase the generalizability of the child's communication. (With Bliss Symbols, the child's conceptualization of a thought or idea is not tied to a specific picture.)

3) Bliss Symbols were chosen over manual signing (ASL) and fingerspelling primarily because the children could not sign due to their motoric impairments. In addition, these approaches were considered to promote limited

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1. Vicker, Bev: "Advances in NonOral Communication System Programming." Project Summary No. 2 August 1973, University Hospital School, Iowa City, Iowa

communication due to the selectiveness of message receivers. It was the intention of the project to eventually fade the symbols, promote word recognition, and develop normal grammatical patterns. ASL (American Sign Language) is, in some respects, syntactically and morphologically different from normal language patterns. ( Vicker, 1973)

4) Bliss Symbols always appear with the corresponding word, or words, which represent the concept displayed. Therefore, the child could communicate with anyone in his environment and the message receiver would not be required to learn the Bliss system.

5) Bliss Symbols are less complex to learn than words, and the child would not be required to attain spelling or word recognition skills before using symbols for communication.

This paper will briefly discuss how the program was implemented and will include a short description of the progress of each of the five children.

#### Program Description

##### Terminal Objective

Our terminal objective (adapted from the 1971 Bliss Project Objectives, Toronto, Ontario) was "to teach each child to use a picture-symbol vocabulary which would serve as a supplement to his present attempts at vocal communication." Intermediate objectives included successful attainment of the following levels:

- 1) Symbol Identification.
- 2) Comprehension of Symbols.
- 3) Use of symbols in respondent communication.
- 4) Use of symbols to initiate conversation.
- 5) Teacher/ward personnel ↔ child communication.
- 6) Inter-peer communication.
- 7) Spontaneous communication in the classroom and on the ward.

##### Selected Criteria for Program Admission

Each child, prior to admission to the program, was required to perform the following tasks:

- 1) He shall be able to establish and maintain eye contact.
- 2) He shall be able to demonstrate competent performance of skills associated with the six stages of sensory motor development, according



to Piagetian theory. Specifically, he shall be able to demonstrate competent performance of the "object permanence" concept,

- 3) He shall be able to attend to task for approximately 5 minutes.
- 4) He shall be able to follow directions upon oral command.
- 5) He shall demonstrate, in some manner, a "desire" to communicate.
- 6) He shall be non-verbal, or unable to produce intelligible, functional speech.

#### Subject Selection:

Children who were considered potential candidates for the program were observed in their classrooms and on the wards. Those children who were included in the program met all of the entrance requirements. In addition to the skill requirements, a number of other factors were considered in subject selection. Since there was to be only 8-10 weeks to implement the program, those children who could most immediately benefit from program goals and activities were selected. In addition, some children were selected who were not presently enrolled in a speech or education program. The enthusiasm and cooperative attitude of teachers and ward personnel were also contributive factors in the final decision.

#### Program Description

Each child enrolled in the program was taught on an individual basis and was met with once a week for approximately 8 weeks. Total teaching time was approximately 15-20 hours. Intensive but flexible programs were implemented due to limited weekly contact and concentrated teaching sessions. Because of the wide variety of educational skills and abilities demonstrated by the children, each member of the teaching team designed a program specifically for the needs and abilities of his particular child.

Teachers and ward personnel were integrated into the program in the following manner:

- 1) Teachers received a copy of each session's objectives and procedures and were encouraged to teach and review Bliss Symbols to the child during the days of team members' absences.

- 2) Teachers and ward personnel were encouraged to require and immediately reinforce responses or questions which the children communicated through Bliss Symbols.

3) Some classrooms and wards were given a notebook in which anecdotes, suggestions or criticisms concerning the Bliss program or the children's communication skills were noted.

4) Pictures of the teacher and ward personnel were placed on children's laptrays and paired with appropriate symbols.

5) Bliss Symbols were posted in classrooms and on wards. These symbols were not necessarily taught in the program; their purpose was to provide the children with models of the symbol system in their environment. On one ward the teacher, wardmother and Bliss teacher wore neck pendants with appropriate Bliss Symbols (teacher, wardmother, friend).

Example:



6) An "idea exchange letter" was circulated to all teachers and ward personnel participating in the program. These persons were encouraged to jot down questions they had concerning the program or ideas and projects they had instituted with the Bliss Symbols.

#### Introduction to Symbols

Sequencing of symbols within the program was left to the discretion of the individual team members. A basic introductory set was decided upon prior to implementation of the program [yes, no, hello/goodbye, more, wardmother, teacher, toilet, want, eat, drink,] and these or similar symbols were usually taught first. Most of the children were introduced to the Bliss System with the symbols yes, no. These were chosen as the children already knew the meanings of these words and were using yes/no questions in daily communication. This enhanced the child learning that the symbols were meaningful and could be used for communicative purposes.

#### Instructional Programs

In general, the teaching programs consisted of procedures which involved: 1) introduction of a symbol, 2) modeling of pointing responses to the symbol paired with verbalization of the symbol concept, 3) prompting of pointing response, 4) symbol discrimination exercises, 5) use of symbols for respondent communication, 6) elicitation of symbol pointing for expressive communication.



## Brief Subject Descriptions

### Child A

Child A is 11 years old and medically diagnosed as "mentally retarded with spastic quadruplegia and microencephaly." During the Bliss program she was administered two achievements tests - the Zimmerman Preschool Language Test and the Leiter International Performance scale. She scored 3.5 years on the Leiter and 5 years on the verbal comprehension part of the Zimmerman.

Prior to the program, Child A's teacher described her communication as "limited to slightly differentiated sounds; and indistinguishable utterances." She felt that Child A's lack of communication was the largest obstacle to her educational achievement at present.

Child A was met with once a week for approximately 1 1/2 hrs. Sessions were broken down into 1) review, 2) practice, 3) test, 4) teaching, 5) review, 6) test.

Within the 10 week program, Child A learned 15 symbols and utilized them for respondent communication. She is now able to correctly point to symbols when asked and will occasionally use a symbol spontaneously to initiate a conversation or express a thought. She will put two symbols together to form certain thoughts and ideas correctly upon request, and in occasional self-initiated responses, i.e., want drink, want toilet.

At the end of the 10 week program, Child A's teacher expressed the following:

"At first I was very skeptical but I am impressed with the favorable results. The children are catching on and at last they can be understood. Although their communication with Bliss is still very limited, I am very positive that eventually they will have total communication skills."

### Child B

Child B is 16 years old and the oldest of the children in the program. He has cerebral palsy, is confined to a wheelchair and cannot express himself vocally.

Child B differentiated objects and symbols by slowly pointing with his left hand. An atonic neck reflex inhibited this child's ability to look at the desired symbol when he was pointing. It was necessary to remind him to hold his head up when pointing and he was not asked to respond until he was in proper position.

It usually took Child B 2-3 sessions to learn a symbol completely. During the 10 week session he learned to discriminate symbols yes, no, hello/goodbye, more, toilet. Although he progressed more slowly and learned fewer symbols than the other children, he demonstrated that he was able to use the symbols meaningfully. During one of the final sessions, Child B, who had just returned from a 3-week hospital visit, saw his Bliss teacher and excitedly pointed to "HI." Later that session, after receiving a sip of milk as a reinforcer, Child B emphatically pointed to "more." These were some of the child's first attempts to communicate with others without using gestures.

### Child C

Child C is a 14-year old cerebral palsied child with a medical diagnosis of "severely mentally retarded." The Bliss program for Child C was implemented over an 8-week period. Prior to the program her intelligible expressive vocabulary was limited to "yes" "no," "hello," and "bye." Her teachers were not certain about the level of her receptive language because of the child's limited expressive abilities.

According to her Bliss teacher, Child C has learned 16 Bliss symbols, which she uses appropriately in "some communicative situations without prompting." Program test results have indicated that she is responding to the symbol rather than the word and can select a known symbol from 2 or 3 unknown symbols. This child experiences visual confusion when a variety of unknown symbols are presented, but is able to effectively utilize a small number of symbols for respondent communication.

### Child D

Child D is a 12 year old child with cerebral palsy. Test results were not available to confirm the medical diagnosis of "mental retardation," and it was believed, at the conclusion of the program, that this child might be more appropriately considered as "physically handicapped and educationally retarded." Prior to the program her speech was unintelligible and she communicated with others through yes-no responses and "twenty questions."

The vocabulary selected by the Bliss teacher for inclusion in Child D's program included:

- 1) Basic human needs (eat, drink)
- 2) Basic human emotions
- 3) Holophrastic words
- 4) Question words
- 5) Significant persons in the child's environment



The teaching format for the 10-week period consisted primarily of a test-teach-retest format. At the end of the 10-week period, Child D had learned 50 symbols and was combining them in up to 4 symbol sentences for expressive communication. Pairing of her pointing response with a verbal approximation of the symbol was encouraged.

### Child E

Child E is 11 years old and is also considered to be mentally retarded. She has recently been assessed with the PPVT, The Boehm Test of Basic Concepts and the Northwestern Syntax Screening Test. According to PPVT test results, her IQ is 56 and her mental age 5 yrs 3 mo.

Child E quickly learned the Bliss Symbols and during the second teaching session she pointed out the message "sick-time-bed," indicating that she was sick and wanted to go to bed. The aides returned her to her ward, whereupon she began laughing and giggling, for she wasn't sick at all, but merely playing a joke on her teachers using her new communication system. During the following session Child E learned the symbol for "I'm Sorry," and has had to use it quite frequently since then.

Child E learned new symbols rapidly and is currently using approximately 75 symbols. She uses the symbols for respondent and expressive communication. Because of Child E's rapid progress with the symbols, it is believed that she also may be considered educationally retarded. Plans are currently being formalized to include her in a language program utilizing word by word communication and phasing out Bliss Symbols.

### Conclusion/Results

The purpose of this project was to explore Bliss Symbols as an alternate communication mode for moderate to severely mentally retarded children who were cerebral palsied and non-verbal. Project results indicate that Bliss Symbols were effectively implemented as a means of respondent and limited expressive communication for this population.

Several of the children initially demonstrated the ability to identify many symbols, but did not communicate with them. For these children it was necessary to program specifically for communication development. Individual programming and flexibility in these and other aspects of the program was emphasized throughout the project. Other aspects thought necessary for successful communication programming were: motivation of the child, the child's attending skills, the cooperation of others in the child's environment, and the amount of success that the child had the opportunity to experience within the program.

It is hoped that this, and other similar studies currently initiated, will set the groundwork for future research on the development of Bliss Symbol Communication with nonverbal mentally retarded children. When applying this or other communication systems to this population, it should be kept in mind that progress in acquiring expressive language through a visual symbol system will vary with the receptive ability and cognitive skills of the child.

In the future, longitudinal studies need to be developed in order to determine long range effects of symbol communication. It will be interesting to learn whether mentally retarded nonverbal children acquire a well developed system of communication with the Bliss Symbols. Preliminary results such as these are exciting and hopefully will generate further interest in the area.

### Acknowledgements

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